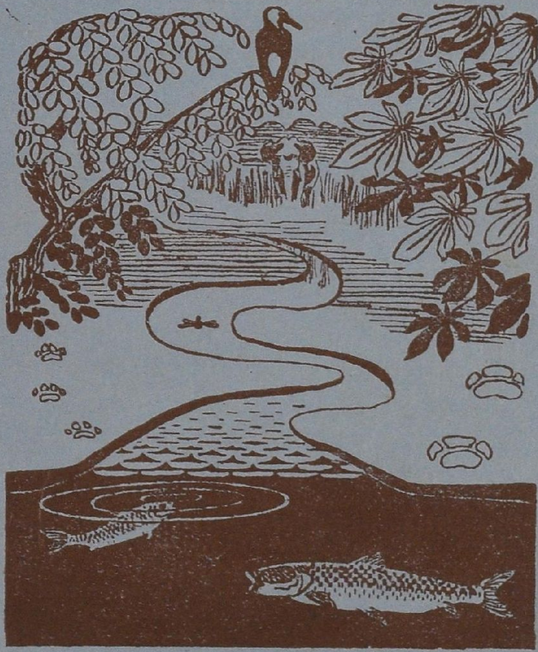
VOL. XXV. OCTOBER, 1952 NO. 4

JOURNAL OF THE BENGAL NATURAL HISTORY SOCIETY.



Edited by : S. THOMAS SATYAMURTI, M.A., F.Z.S.

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The Society under the name Darjeeling Natural History Society was started about the end of 1923, the objects being to maintain the Museum in a proper condition, to promote the study of Natural History and to get together as complete as possible collections of Natural History specimens from a limited area, including "the Civil Districts of Jalpaiguri and Darjeeling and the State of Sikkim", as well as what could be procured from the neighbouring countries of Tibet, Bhutan and Nepal.

Government and Municipal grants not being sufficient for our purpose, it was proposed to enrol members so as to increase our funds, and a quarterly journal has been started. The journal is no longer confined to articles on the Natural History of the above-mentioned area, but includes those from anywhere. It is hoped that everybody will join the Society and co-operate to make the Museum and Journal a success.

The annual subscription is only Rs. 10 ; Life membership Rs. 150 ; those who have been members for over twenty years can become Life Members on payment of Rs. 75.

Members get copies of the Journal free and other privileges. All facilities are also given to members to study the museum collection and expert advices are given to them regarding collection, preservation and identification of specimens.

Application for membership should be made to :—

THE CURATOR,
Natural History Museum,
Darjeeling.

Editorial

AS we depend for our finances, to a considerable extent, on subscriptions received from our members, the Museum Committee has recently felt that there is an urgent need to increase our membership if we are to keep up the usual standards and frequency of publication of our Journal and to carry on our other activities satisfactorily. We therefore earnestly request each and every one of our members to co-operate with us in this matter and help in enrolling more members. If every member could help to bring in one more member it should be easily possible for us to double the present strength of our membership.

We also strongly appeal to our members to co-operate in contributing articles to our Journal from time to time, so as to enable us to make our Journal as popular and attractive as possible. Many of our members will perhaps remember the repeated appeals for articles made by my renowned predecessor, Mr. C. M. Inglis, who fully realised the difficulties of keeping the Journal alive without whole-hearted co-operation. One of his appeals, published as an editorial note some twelve years ago is perhaps quite as true, urgent and appropriate now, as it was then, and I am quoting it below with the hope of getting an encouraging response :—

"This is an urgent appeal to all to help us with articles and notes for our Journal. We have almost reached the end of our material and so urge our members to help us and keep our little Journal from vanishing altogether.

"We wish to thank those few, very few, unfortunately, who continually help us, but it is unfair that the burden, and it is a burden, of keeping the covers apart should fall wholly on their shoulders and those of the Editor.

"Most of our members are sportsmen, either fishing or shooting and all must have had some good days of sport or interesting experiences and facts worth recording. Also notes on the local fauna and flora of the Districts in which members reside, or papers on any subjects in which they specialise will be most welcome. A fire cannot be kept burning without fuel nor can a Journal, however small, be carried on without material. We will be most grateful to all who take this appeal to heart."

FOR SALE

We have for sale a few copies of a useful handbook entitled "Instructions for Collectors of Natural History Objects" by various authors, edited by Mr. C. M. Inglis. The book comprises, in a bound form, separates of well illustrated articles which had already appeared in our Journal at various times by eminent naturalists who are noted authorities in their respective fields. Copies may be had from the Curator, Natural History Museum, Darjeeling at Rs. 3/8/- per copy plus postage, by V. P. P.

We also have a limited stock of greetings cards, containing coloured illustrations of Jerdon's Bush Chat and Duars Paradise Flycatcher, suitable for Xmas and other festive occasions. They may be had from the Curator, Natural History Museum, Darjeeling, at Rs. 6/- per dozen, plus postage, by V. P. P.

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Photograph by E. P. Gee.

Great Indian Rhinoceros in Kaziranga Wild Life Sanctuary, Assam.

JOURNAL
OF THE
BENGAL NATURAL HISTORY SOCIETY.

VOL. XXV. OCTOBER 1952. No. 4

THE GREAT INDIAN ONE-HORNED RHINOCEROS

BY

E. P. GEE.

(*With three half-tone plates*).

The Great Indian one-horned Rhinoceros, probably India's rarest and most interesting animal, occupies a unique position in the world to-day. Listed by the survival service of the International Office for the Protection of Nature as one of the vanishing species which requires all possible steps to be taken for its protection, it has the eyes of all scientists, naturalists and others in all parts of the world focussed on it and its habitat.

Formerly spread over most of the northern part of the Indian sub-continent, it is now confined to a few low-lying and thickly reeded tracts of Nepal and North-East India. It is estimated that there are some fifty head of rhino in Nepal, and it is to be hoped that the Government of that country can be persuaded to protect it fully—even from being shot by privileged persons.

Some 300 rhino are believed to exist in India : 2 in Bihar State (in Champaran District, probably wanderers from Nepal), 58 in Bengal, and 240 in Assam. The 58 in Bengal are accounted for as follows: 3 in Garumara Sanctuary of Jalpaiguri District, 30 in the Jaldapara Sanctuary of Buxa District, and 25 in Cooch Behar:

The main stronghold for India's rhino is the State of Assam. Her 240 rhino are distributed thus: 45 in the North Kamrup (Manas) Wild Life Sanctuary, 150 in the Kaziranga Wild Life Sanctuary, 5 in the Sona Rupa Reserve, 10 in the Orang Reserve, 20 in the Laokhowa Reserve, and 10 elsewhere. All the figures given are approximate, based on conservative estimates made by the most experienced persons concerned with the preservation of this rare animal.

CENSUS NOT POSSIBLE

A proper census of rhino is not humanly possible. Even in Kaziranga attempts to hold a census from the air have failed, owing to the extensive patches of 15-feet-tall elephant grass which cover most of the sanctuary. Only a very small percentage of this elephant grass can be burnt off each year.

It is within the realm of possibility that there may be more than 150 rhino in the 165 square mile area of Kaziranga, say even up to 250 or 300 head; but wishful thinking and optimism are dangerous pitfalls to be guarded against, especially when one considers the slender thread on which the survival of these valuable creatures is suspended. Disease contracted from domestic cattle grazing in the vicinity of sanctuaries in Assam accounts for many rhino deaths. For instance, in 1944 some twenty-two horns were collected in Kaziranga from rhino which had died from some disease; and again in 1947 the carcases of fourteen rhino were found in Kaziranga after an unreported outbreak of anthrax among the cattle of a village nearby. Many more may have died without their remains having been found.

Only about two rhino each year seem to be lost in Kaziranga through poaching, and it is possible that the market for rhino horn has been affected by conditions in China during the last decade. Poachers exist in large numbers, and there is much illegal shooting both on the fringes of the sanctuary and all round it, often in the name of crop protections. The handsome Indian Swamp Deer has almost disappeared, and even Hog Deer are becoming scarce. Gaur (Indian "bison") have entirely vanished both from the sanctuary and from the neighbouring Mikir Hills.

It is my personal view that the numbers of rhino rose from the much depleted stock of a dozen or so in 1908 to about 400 in 1940, but have now become reduced to some 250. For the sake of being on the safe side, however, I prefer to abide by the more conservative estimate of 150.

An examination of the entries of animals seen, as recorded in the visitors' book of Kaziranga, reveals that from 1944 onwards fewer rhino were observed than in the years 1937 (when the sanctuary was first opened to visitors) to 1943. Again, the figures of rhino seen in the years following 1947 are still fewer. This almost certainly has a direct relation to the outbreaks of disease in the sanctuary.

ENCOURAGING SIGNS

It is pleasing, however, to note that the number of rhino seen so far in 1951 in Kaziranga is greater than in the previous year; and it appears that if we can solve the problem of trespass by villagers with their cattle, and if we can eliminate cattle disease in the neighbourhood of the sanctuary by means of compulsory inoculations and the like, the safety and ultimate survival of rhino can be ensured. In this respect, it is most gratifying to be able to report that vigorous steps actually have now been taken to eradicate rinderpest from the area of Kaziranga. During the month of December, 1951, an enterprising team from the Veterinary College of Gauhati were engaged in inoculating for a five-year immunity all the domestic cattle and buffaloes belonging to the nearby graziers and villagers. The team, consisting of the Vice-Principal of the College, four professors, two lecturers and twenty-four students, were divided into four parties. They worked energetically, often at night, and in a period of three weeks or so, inoculated a total of some 50,000 animals—a very praiseworthy effort on the part of the College personnel concerned.

A heartening feature on a visit to the sanctuary is the sight of rhino calves. On three visits made early in November, 1951, I saw a total of nineteen rhino, of which three were calves. One

of these was a half-grown calf, but the other two were *newly born.* I estimated that the height of these two very young calves was not much more than 2 feet and 2 ft. 3 in. respectively and I therefore put their ages at about two weeks and four weeks.

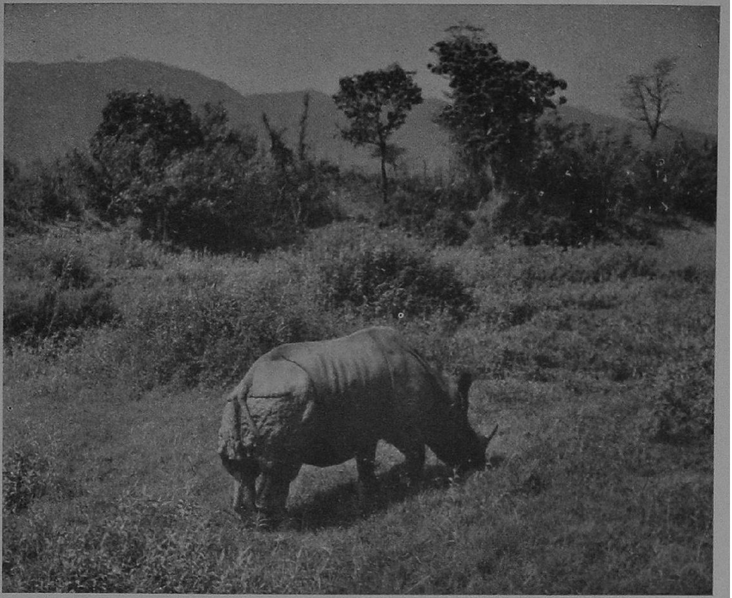
That rhino calves are usually born in October is also supported by the fact that in the case of a rhino calf of the same species being born in captivity in 1925 at the Calcutta Zoological Gardens, the birth took place on 9th October. This birth was reported to be "unfortunately somewhat premature," and the 1 ft. 11 in. high baby only survived a few hours.

The mating of this pair of rhino in the Calcutta Zoo took place in the second half of March, 1924, which would make the period of gestation about eighteen and a half months. Rhino in Kaziranga have been observed in the act of mating on only three occasions since the sanctuary was opened in 1937: on 17th April, 1938, on 24th February, 1940, and on 25th April, 1944. Careful observation is needed to build up our knowledge of the life history of this species of rhino.

Kaziranga Wild Life Sanctuary

Increased interest has been taken in the Great Indian One-horned Rhinoceros and its sanctuaries during the last few years. In keeping with the times, the words "Game Sanctuary" have been suitably changed to "Wild Life Sanctuary." In the case of Kaziranga Wild Life Sanctuary, which is the show-place for rhino in Assam, and therefore in India, a fair-weather access road from the Trunk Road to the boundary of the sanctuary has been constructed. Visitors can now motor in the dry weather right up to the edge of the sanctuary, and a considerable saving of time is effected.

The Forest Bungalow at Baguri has been reconditioned and improved; and now actually boasts of electric light (when it works) and sanitation, as well as a complete outfit of crokery, cutlery and mattresses, etc. I understand that the Forest Department hope to arrange for a cook during the season of the cold weather, if a satisfactory flow of visitors can be assured.



Photograph by E. P. Gee.
Great Indian Rhinoceros in Kaziranga Wild Life Sanctuary, Assam.

Photograph by E. P. Gee.
Great Indian Rhinoceros emerging from a Jheel.

As for inspection elephants, the two old stagers, Akbar and Sherkhan, have been reinforced by Mohan and two very likeable youngsters, Shivasingha and Mohanprosad. Shivasingha is a tusker and should in time be a worthy successor to the aged but staunch Akbar.

THE FUTURE

Ii is gratifying to note that there is a gradual, though slow and long overdue, awakening among the public of Assam to the value of the State's wild life and to the need of its preservation. A Wild Life Committee has recently been formed, whose function will probably be mainly "advisory". But as it includes many prominent persons, both official and non-official, and as it is under the chairmanship of H. E. The Governor, and under the vice-chairmanship of the Honourable Chief Minister and the Honourable Ministers of Forests and Food and Agriculture, it is hoped that its advice will carry considerable weight.

In addition to steps for the preservation of wild life in general, one of the primary objectives of this new Committee is the creation of two National Parks in Assam: Kaziranga and North Kamrup (Manas). As these are the two main strongholds in the world of the Great Indian One-horned Rhinoceros, there is now much more hope for the ultimate survival of this interesting creature for posterity.

Reprinted from "Oryx," Vol. I, No 5.

CORRIGENDA.

Vol. XXV. No. 3.

P. 162. In lines 15 & 14 from the bottom, please change "Chilka Lake in Orissa" to
"Inlé Lake in Southern Shan States, Burma".

P. 167. In line 5 from the top : read "evanescent" instead of 'evenescent".

Under the Map of Jalpaiguri District insert "del F.J.A. Hart".

INDIA'S VANISHING FAUNA

BY

E. P. GEE.

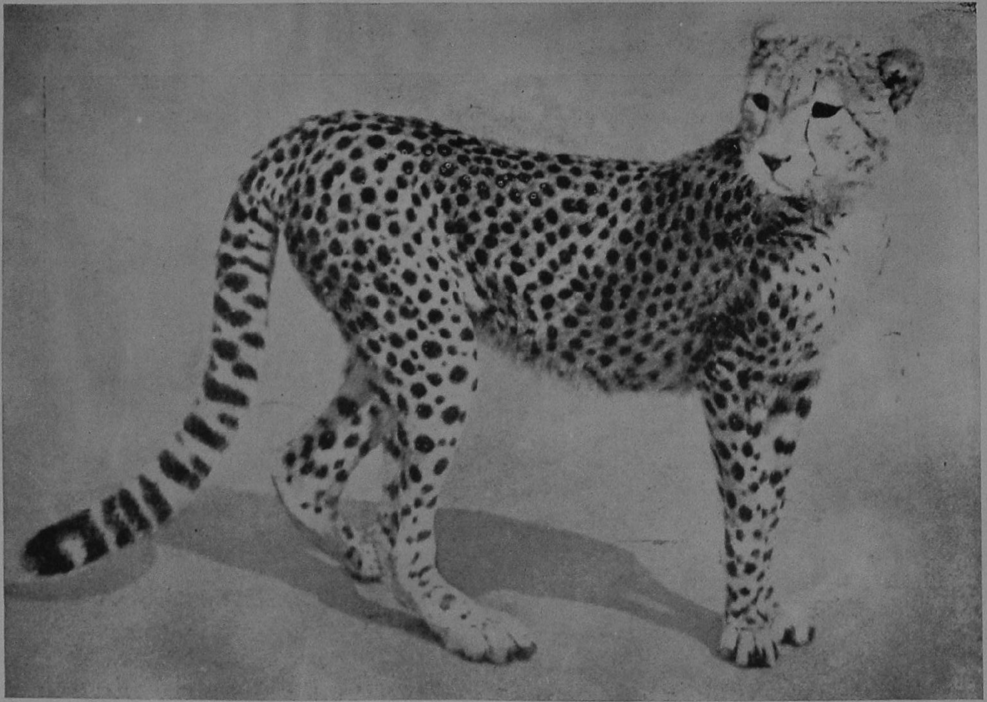
(*With three half-tone plates*).

One of India's most valuable assets is her fauna, for which she is famous the world over. But the general position regarding wild life in this subcontinent has vastly changed from that of twenty years ago; and special conservation measures have now to be considered in order to prevent rare animals and birds from being irretrievably lost.

With a quickly increasing population, and consequent expansion of civilisation—irrigation projects, new roads, new villages, more cultivations and so on—the space left for wild life is daily shrinking. Firearms seem ever to be on the increase; and vast jungles which formerly teemed with "game" have now dwindled in size, and are largely bereft of their rightful former furred and feathered inhabitants.

Some animals and birds well known to all as typical and familiar Indian species are becoming very rare indeed. Some have actually become extinct, for example the handsome and graceful Indian cheetah has recently died out altogether. The last definite report of a wild cheetah in India came a few years ago from Korea State, north of Baster. Cheetahs or "hunting leopards" (they are quite distinct, of course, from the ordinary leopard or panther) have been imported from Africa in recent years by certain Indian princes for hunting purposes.

Some optimistic naturalists believe there may be one or two wild cheetahs left in the remoter parts of India, but this is doubtful. As far as I can see, the only hope of reinstating the Indian Cheetah is by obtaining some tame ones and breeding from them in a zoological park like Britain's Whipsnade. Later on they could be liberated in a safe wild life sanctuary.



Courtesy of Bombay Natural History Society *Photo by F.W. Bond.*

The Cheetah

Another member of the cat family which is losing the battle of life in India is the Asiatic lion. This animal used to range over a large area of Central, West and North-west India, even in the nineteenth century. But now it is found only in the Gir Forest of Saurashtra, and the total number is only about 250. It is mainly protected, and only a limited number are allowed by permit to be shot each year. Great care is required in watching their numbers, otherwise they will be exterminated.

The tiger, that grandest and most spectacular of all jungle creatures, is now becoming scarce all over the country, and some naturalists are doubtful of its ultimate survival. But under the protection afforded by wild life sanctuaries and proposed national parks, tigers should never become extinct so long as their numbers are carefully observed by those in charge of wild life conservation.

The Indian wild ass is another creature which is becoming very rare. It is now only found in the Rann of Cutch, an isolated and inaccessible tract where it cannot be replenished from outside. They are strictly protected by the authorities, but some are liable to be killed when they stray elsewhere.

The case of India's rhinoceroses is well known. Of the three species which used to be found in this country, the smaller one-horned or Javan rhino has now become quite extinct. The Sumatram two-horned rhino is practically extinct, none having been seen in India for many years. It is just possible, however, that one or two pairs may exist in the wild and remote hill tracts near the Burma border.

Fortunately we still have with us the Great Indian one-horned rhino. Thanks to the foresight of those in authority some forty years ago, when rhino became totally protected by law, there are now about 300 of these pre-historic-looking creatures still existing in India to-day, with another 50 or so in Nepal. Visitors from all parts of the world can now see these animals in their sanctuaries in Assam, and also in Bengal.

The elephant, perhaps the noblest of India's wild animals, continues to survive in spite of the gradual destruction by man of its forest home. Elephant population in the various States need to be accurately assessed in order that catching operations and shooting may be carefully regulated, thereby ensuring the survival of this valuable creature.

The numbers of wild buffalo in India are shrinking year by year. They are now found only in Central and North-east India; and the recent earthquake and severe floods in Assam are believed to have contributed to the destruction of many of these noble animals. They are particularly valuable in maintaining the stock of the domestic buffalo, with which they interbreed when given the chance.

Other sufferers in the Assam earthquake must be the takin, goral, serow and musk deer. These animals exist in the higher altitudes, usually in impenetrable places. The takin is peculiar to North-east India, and is extremely rare. Specimens have been shot from time to time, but I think it has never yet been photographed in its wild state. Here is a chance for some enterprising naturalist-photographer. As for the little musk deer, this creature is becoming extinct because the males happen to possess the famous musk pod of commercial use. They are tapped in large numbers by the Mishmis and other mountain dwellers, and the pods traded to western countries for the manufacture of perfumes.

Whilst on the subject of deer, it is sad to record that the beautiful brow-antlered deer of Manipur State is extinct or nearly so. Before the recent war this deer was found in the swamps to the south of the State in small but fairly safe numbers. Even since the war it has been seen, but recent searches have been most disappointing. If it has actually become extinct, India will have lost for ever a very handsome deer about four feet high, whose antlers (in the stags) sweep from the tip of the brow tine to the point of the beam in one continuous graceful curve.

Photograph by E. P. Gee.

A wild bull buffalo in the Kaziranga Wild Life Sanctuary, Assam.

Photograph by E. P. Gee.

A herd of Gaur (Indian "Bison") in the Periyar Wild Life Sanctuary of Travancore.

The handsome Indian swamp deer is reported to be in safe numbers in some parts of the country, but alas this is not true of North-east India. In Assam and Bengal it is rapidly becoming rarer each year, chiefly because its large size—it is next to the sambar in stature—makes it an attractive prey for poachers. The smaller but even more beautiful spotted deer is fortunately still fairly common in most of the localities where it is found.

The magnificent gaur, known to sportsmen in India as the bison, is flourishing in the States of South India, though not in the numbers of former days. As they are most susceptible to diseases spread by domestic cattle, strict watch needs to be kept on their welfare, and more sanctuaries may need to be created if their survival is to be guaranteed.

Some birds, also, are fast disappearing. The pink-headed duck has not been seen in North-east India since 1932, when a drake was shot in Manipur. And yet from 1921 to 1923 they were to be seen in flocks in the Nowgong district of Assam, in Bengal and in Bihar. One was shot in Gangpur State in 1949. Otherwise there is no report of this bird having been observed or shot in recent years in India.

The great Indian bustard, which used to be common in the North-west, Central and South India, is becoming very rare. Steps are being taken or contemplated for its protection in some States; but being a heavy ground bird and larger than a vulture, it is unlikely to survive for long, except in a zoo or a park of some kind. The lesser florican and the Bengal florican are also being gradually wiped out.

What does it all add up to? A new era has begun in India, in which a fresh outlook towards wild life is needed. Any kind of complacency or laissez-faire now will mean the end of India's many rare animals and birds.

The recently created Central Board for Wild Life is a step in the right direction. But whole-hearted enthusiasm and wide publicity are needed at the top, to arouse the interest of the public and to ensure their co-operation in saving India's wild

life from threatened extinction. The possible constitution in the near future of Wild Life Advisory Committees in the States should be of great assistance to Forest Departments in their task of nature conservation, especially if the general public—that is, non-officials—are well represented on these bodies.

Let the poacher turn sportsman, and consider what game can be reasonably shot—without harm to the rare and beneficial species. Let the sportsman, laying down his gun for a camera, turn naturalist and unpaid but richly rewarded conservator of wild life. And while controlling in numbers the few injurious animals and birds, let all contribute towards preserving India's varied and interesting wild life for posterity.

By kind permission of The Sunday Statesman.

A YOUNG SEROW

By

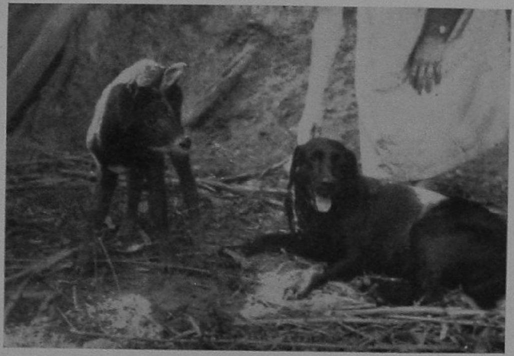
D. C. Purves.

Some nine months ago. in February, I was fortunate in being able to obtain a young male Serow. As part of his umbilical cord was still adhering to him, his age could hardly have been more than two weeks.

He was captured at a height of about a thousand feet above sea level which, I am informed, is not unusual for the Darjeeling District. Referring to three of my text-books, the range of a Serow is given as from 6,000 to 12,000 feet in Northern India.

He was fed, at first, on diluted cow's milk from a feeding bottle and after a few weeks on grass, leaves, discarded flowers and vegetables. His favourite dish appears to be Carnations though his chances in indulging in these had been severely limited. He is very robust and shows none of the weaknesses that one usually associates with rearing young Barking Deer. From time to time half a tablet of Sulphaguanidine has been mixed with his milk.

SEROW: Five months old
(Weight 41 lbs.)



SEROW: About five weeks old.

Though there is no need for him to be hand fed at this stage, he still receives his three bottles of milk every morning. For this purpose he is brought up to the bungalow. On being shown the bottle and jug he trots along behind the Mali to the verandah. He gulps the first bottle down as fast as he can, and shows great excitement while it is being refilled. He jumps on chairs and tables and will go down on his knees to lick the legs of the person who is feeding him. After his milk a second course consisting of a little lettuce and salt is always acceptable.

Though always alert, his intelligence does not seem to be very high as he will only associate his bottle with milk when he is allowed to smell it from a distance of a foot or so. When it is passed from one person to another he does not seem to realise the fact. When listening to any unusual sound one large ear will remain vertical whilst the other is extended towards the source of the noise.

He is quite often taken for walks on a long lead, the lead being necessary to preserve the flowers in the compound. At times he will walk along obediently and will also 'canter', particularly down slopes which suit his legs better than a flat ground. On other occasions he can be most obstinate and will only move when pushed. He will be down pretending to be exhausted but as soon as the lead is slackened and he thinks he is unobserved, he will rush off in the opposite direction.

Though most stubborn he has never shown signs of temper. He just gazes with his big eyes at dogs who show interest in him, and if they bark he lowers his immature horns at them but has never attacked. He likes the company of human beings and will come up to a sitting person and put his fore-paws on his lap and proceed to lick his arms vigorously with a very rough tongue. When left alone he jumps up and down and tries to come into the bungalow. He is very clean in his habits, and no offensive odour has been noticed either in his breath or on his body.

The Serow is classified, together with the Goral and the rarer Takin as one of the goat antelopes. In appearance it is a long-legged mixture of these two animals surmounted with a

pair of large, donkey-like ears. In spite of its ungainly appearance it is an agile performer on the rocky, wooded hillside that it frequents. In colouring it is a grizzled black with lighter underparts and a white chest. An adult will stand over three feet at the shoulder and can weigh over 200 lbs.

Scientific names : *Nemorhoedus bubalinus* and *Capricornis sumatrensis.*

Local names : Khaskura—*Thar* (Not to be confused with *Hemitragus jemlahicus*, the Himalayan Tahr). Lepcha—*Sichi;* Bhutia—*Gaya.*

A MANTIS IN CAPTIVITY

By

A. Manjil, S.J.

Late in the evening at about half past eight on the 15th of October, year before last, as we were coming out of the dining room, high up on a stone wall in front of us perched a big green praying mantis. I threw a folded handkerchief on her and down she came sailing to the ground. As I picked her up she grabbed the back of my thumb with her spiny fore-legs. I took her to my room and put her into a cigar-box and covered it with a glass slab. That was to be her home for the next two months.

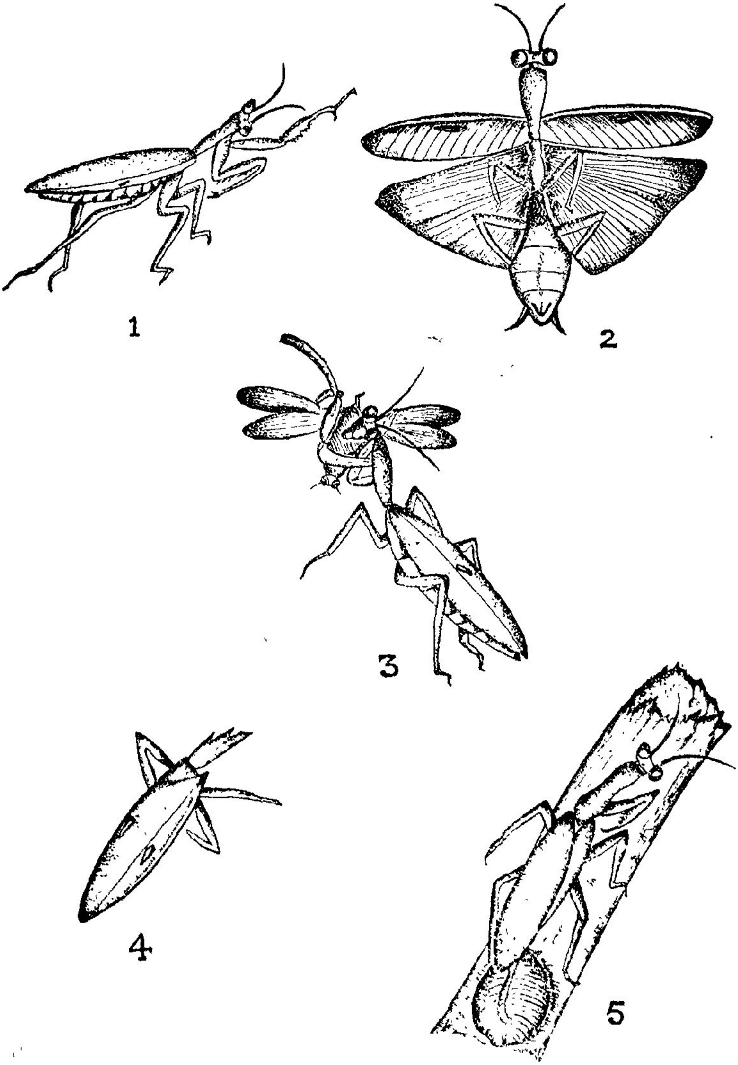
The caged mantis walked about on the sides of the box and tried in vain to get a grip on the glass slab. So I placed a strip of wood in the box for her to perch on. Thereafter she spent most of her time on it.

The mantis measured three inches in length. Her head was triangular with two bulging eyes in the corners. Between the eyes were two short feelers. Unlike most insects she could turn her big head to the right and left and up and down on the short neck by which it was hinged to the shield-like prothorax. Attached

to this hard-backed prothorax was a pair of muscular three-jointed forelegs about two inches long and provided with double rows of spines on the foldable distal portion. Behind these powerful forelegs the mantis had two slender pairs of walking legs on which she moved about in an awkward manner. She had two pairs of wings, a green, narrow outer pair and a transparent, broad inner pair. But she seldom used her wings. Her abdomen was segmented like that of a cockroach.

For the first few days the insect was restless, chiefly at night when she disturbed my sleep by making continued attempts to climb on the glass slab and falling down noisily to the bottom of the cage whence she clambered to her feet in great excitement. The morning after her capture I introduced a small butterfly into the cage. The moment she heard the faint flutter of wings she turned her head in that direction and stood still, her forelegs raised and ready to strike. When the butterfly flew past her, quick as lightning the spiny weapon of the praying mantis closed on it like the jaws of a rat trap. That very instant she started nibbling away the head of the butterfly. She seemed to crunch the insect with two powerful "teeth" that moved sideways. The upper lip folded upwards as the mantis thrust her "teeth" into the body of her prey while the many processes on the lower lip moved about like fingers in different directions. She did not suck her food like the scorpion but swallowed it avidly after breaking it into bits with her strong jaws. She had a voracious appetite and could eat for over an hour without tiring. On one occasion she fearlessly attacked a dragonfly as big as herself and ate it all up at one stretch. After eating she often cleaned her forelegs passing the spines on it one by one through her mouth. She did the same with the tips of her walking legs too. In spite of her heavy feeding her castings consisted of small grey pellets just a few a week.

Harmless to men, my captive was a terror to all kinds of insects and a cannibal from birth ! The small mantises that I put into her cage to keep her company invariably disappeared overnight. On the 5th November I procured a couple of mantises about as long as the one I had, but thinner than her ; I put them into the cage. The next morning I found that one of these



THE PRAYING MANTIS

1. In normal position.
2. With the wings spread out.
3. The mantis feeding.
4. All that was left of a male
5. The mantis with her egg case.

had no head. This was probably a male mantis whose head she had bitten off after mating. I threw out the decapitated male. The following morning I found that she had eaten the other male also leaving one leg and one green wing !

Days passed by, and the mantis was as gluttonous in her habits as ever, but she had grown quiet and did not seem to mind her captivity since she could get her food without stalking her prey or hunting insects under the night lamps. I noticed, however, that her abdomen was getting unusually big. I suspected that she was going to lay an egg. But nothing happened for a week. So I stopped observing her closely except when I was feeding her. On the 24th November, *i.e.*, two weeks and three days after she had devoured the last male mantis, she laid her first egg. At 12 noon I happened to look into her cage. On the strip of wood on which the mantis stood, just below her abdomen was a small green grey heap, much broader than herself and as tall. An egg case ! When I lifted the glass slab to look in closer, the mantis shot forward her foreleg menacingly at me. Hands off ! I however enticed her away by letting an insect into her cage. Off went the mantis after it.

I lifted up the strip of wood with the freshly laid egg case of the mantis on it. It was 1½ inches long and looked like an elongated hemisphere, with a light band running over it and ending in a beak where the mantis finished laying. There were several grooves on either side of the band, each groove containing one or more eggs. The egg case which was soft at first, slowly hardened in the air.

The mantis became restless once again and seemed bent on escaping ! Since I was to leave Poona in a few days I thought of setting her free after such a long captivity. Accordingly on the 8th December I took off the glass slab that covered her cage. Slowly she got out and crawled about my table and bookstand. But she would not go ! That night I saw her sitting on my lamp stand as if she expected me to feed her ; since winter had set in insects were no more coming round the lamps. So I decided to take her with me on my long journey to Kurseong about 20 miles below Darjeeling. I put her into a small cardboard box

and put it into my pocket lest in the train someone should trample on her. At Bombay I took her out and gave her a moth. When I opened the box in Calcutta I saw that the mantis had paled considerably ; at Siliguri the chill winds were blowing and the mantis was definitely sick. When I reached my destination 5,500 feet above sea level the atmosphere was bitterly cold ; so I was not surprised when on opening the box I found the body of the mantis sliding down on my table. She was dead.

The following day I measured the body and limbs of the dead mantis. Seeing the abdomen still distended I ripped it open to examine the internal organs. Behind the alimentary canal I found a heap of yellow eggs each less than ¼ inch long with blunt ends. Had the mantis continued to live she would have laid another egg case within a week. Anyway I preserved her first egg case quite intact.

A GIANT AMONG SNAKES

BY

S. THOMAS SATYAMURTI, M.A., F.Z.S.

I narrate below the story of how I acquired a Python when I was Curator in the Madras Museum in the hope that some of our members might be interested in my observations on the habits of this snake, which I have recorded therein.

It was an oppressively warm Sunday in June when I received a note from the Museum Office informing me that a live Python had arrived at the Museum. It was good news for me, as I had long been trying to acquire the specimen for the Museum. But the momentary sense of joy soon changed into one of grave concern as I pondered over the tremendous job that lay ahead of me and my taxidermists. The responsibility of killing and skinning the snake, curing the skin and mounting the specimen satisfactorily in the face of strong sentimental opposition from humane onlookers rested heavily on us.

No one perhaps realised the value of the new arrival better than I did. For it was only after several months of persevering correspondence with various institutions that we finally managed to secure a live Python from the Trichur Zoo in exchange for named specimens of shells, corals and fossils. The animal reached the Museum huddled up in a miserably ill-ventilated crate, far too small to afford comfortable space for its voluminous body. The long rail journey must have been bitterly unpleasant and almost suffocating for the poor reptile. Yet it had managed to survive the stress and strain and was quite at home when it was cautiously unpacked and liberated into a tolerably roomy cage where it was destined to spend the last days of its life.

Our new acquisition was a fine, medium-sized specimen of the Indian Python (*Python molurus*), weighing thirty pounds and measuring about ten feet in length, with a beautiful pattern of oblong, dark-edged chestnut patches on a pale yellowish brown ground, but the skin colour was rather obscured at the time of its arrival, as it was then preparing to cast its skin. Habitually a lazy and sluggish reptile, the Python is more markedly so when it is about to shed its skin. The captive lay motionless in the cage for the greater part of the day, its eyes dullened by an almost opaque patch of the peeling skin, but it was apparently more active during the nights, for we could easily detect signs of its nocturnal explorations over the entire cage.

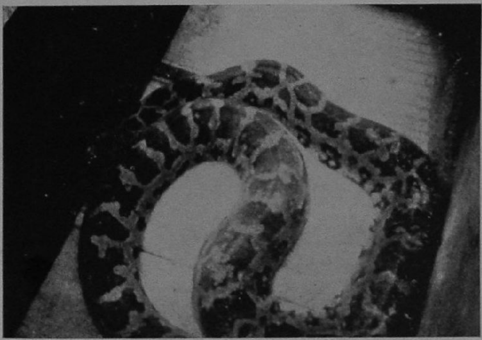
Our original idea was to keep the Python under observation for a few days in the private preparation rooms of the Museum and to have it killed and prepared as a permanent museum exhibit in the usual way, without making a fuss about it. But somehow the news of the presence of a live Python at the Museum spread like wild fire and very soon there was a steady stream of unauthorised persons pouring into the Museum Laboratory, where the Python cage was kept, to get a glimpse of the newcomer. Dozens of inquisitive faces began to crowd around the window nearby, peering at the new arrival. This was a sure index to the interest that the Python had aroused. We therefore decided that the best plan would be to exhibit the reptile alive at the Museum entrance for a couple of weeks and to give it a

little more publicity which it perhaps rightly deserved, for, after all, a live Python in captivity is so apathetic that it is almost as fitted to be displayed as an exhibit in a Museum as in a Zoo !

Day by day its skin was turning duller and coarser as a prelude to its shedding. The process lasted for over a week, during which the snake lay most of the time in a state of extreme lethargy, refusing to take food, as Pythons always do when they are undergoing this process of shedding the skin. It was not till about the tenth day after its arrival that it shed its entire skin, but the skin was peeling away in sections for captive Pythons seldom cast their skins in a complete, unbroken condition. After the snake had moulted it was a pleasure to see the exquisite sheen and the brilliant colouration of the fresh skin—a new, multi-coloured coat for the reptile, washed and dyed in Nature's own laundry !

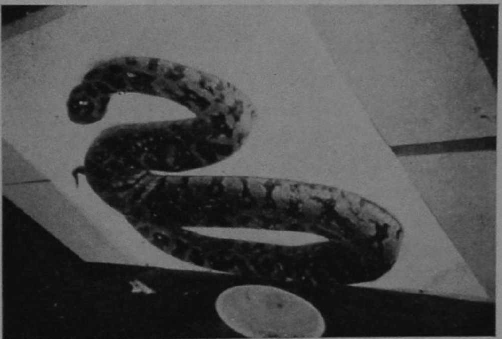
The Python was now beginning to be more lively and its appetite was gradually returning. In view of the great public interest that the reptile had aroused, it was decided to extend the term of its imprisonment in the cage by two more weeks before its execution, and during this period it was fed twice with a live fowl on each occasion, as we were advised by the authorities of its original home at Trichur that the fowl was its favourite delicacy.

The spectacle of the Python stalking the fowl was quite exciting, especially to those unaccustomed to it. The Python was lying apparently dormant when the fowl was introduced into the cage. There was no movement except for an occasional quivering of its forked tongue. With its sinister, unwinking eyes rivetted on its prey, it now began to move its head slowly, and posing it a few inches above the ground, advanced its head stealthily towards the victim. Then, with a sudden forward thrust, far too rapid for the human eye to follow, the snake grasped the thigh of the fowl with its jaws in a fatal grip, as the latter uttered a smothered croak. Almost simultaneously the coils of the snake were quickly thrown round the victim's body, and all movement stopped abruptly. For nearly ten minutes the Python lay apparently motionless holding the fowl in its iron



The live Python in its cage.

The Python taken out of the killing box.



The dead Python stretched out on a board.

grip, but all the time it was imperceptibly tightening its deadly coils around the ill-fated wretch, crushing its ribs and squeezing its flickering life out of its feeble frame.

It was remarkable how unmistakably the Python was able to perceive the fact that its victim was dead, for it was not until the fowl was completely dead that the Python began to relax its hold on the prey. Dipping its strained jaws in the dish of water placed in the cage, the snake now started searching for the head of the fowl which lay buried in its fleshy mass of coils. Starting with the head, the Python commenced the slow and laborious process of swallowing the fowl entire. It was an excellent practical lesson in Nature Study for us who observed the feeding habits of the snake with keen interest. The sharp, recurved teeth (of which there are two rows in the upper jaw and one in the lower) were hooked further and further into the victim's body while at the same time a copious, slimy, salivary exudation served as an excellent lubricant. The jaws of the Python are indeed a triumph in structural adaptation, for it was wonderful to see how widely they could gape open while swallowing. The two halves of the lower jaw which are movably articulated by means of an elastic ligament are capable of very wide expansion. The glottis (opening of the wind-pipe) was brought far forwards so that breathing might be maintained. It was a tedious and almost seemingly impossible affair, but the highly distensible body of the Python can accommodate animals much bigger than a fowl. Even leopards are said to have been overpowered and swallowed by Pythons.

Not a single feather of the fowl was left behind. An awkward bulge somewhere about the middle of the Python's body was the only visible external sign of the unfortunate prey. The satiated reptile now entered upon its long, after-dinner stupor which lasted for four or five days during which the food was gradually digested and absorbed. The undigested remains were passed out in the form of black lumps at the end of this period.

Finally the great day arrived when the Python was to be immortalised at the Museum as a permanent exhibit. Killing the snake itself was a problem for it had to be transferred alive

to an air-tight box where it could be chloroformed effectively. However timid and sluggish the Python might appear to be, handling it alive, especially at a time when it is hungry and looking for a prey, is always attended with a certain amount of risk, for instances are on record of Pythons having attacked and strangled men who had incautiously intruded into their cages in certain zoos. The safest method was therefore to anaesthetize the snake in its cage, and this was achieved by directing a spray of chloroform at the nostrils of the snake by means of a syringe from outside the cage. This initial dose was almost electrifying in its effects, for the snake immediately started lashing about in the cage with a speed and vigour we had never before witnessed in this creature. It uncoiled and lengthened itself out to its utmost extent, stretched out its head to the farthest corners of the cage to get a sniff at the fresh air outside and finally dropped in the cage insensible. It was now easy to transfer the animal to the air-tight killing box in which it succumbed to an additional dose of chloroform within an hour.

After taking photographs and measurements of the dead snake, we started skinning it straightway while the body was still soft and flexible. Skinning the Python was a tough job and meant three hours of arduous labour for three men. The snake was cut up along the belly from the anal opening right up to the base of the lower jaw, and skinned completely over the entire body. The skin over the head was carefully released from the skull and separated entirely from it. All flesh and fat adhering to the skin had to be scraped away, and the skin was then given the necessary preservative treatment. It was first soaked in salt water to remove the blood and then in carbon tetrachloride to dissolve out the fat. It was then hung out to dry for about an hour and then tanned with powdered alum and salt after being passed through baths of hydrozen peroxide and a thin solution of glycerine and glue successively. The tanned skin was rolled and allowed to remain overnight.

The work on the following day was as exacting as the skinning process, for the skin had to be now stuffed and mounted so as to approximate the living Python as closely as possible, and this was a job demanding considerable skill and ingenuity.

An artificial body was carefully shaped with wads of tow around a long central wire armature, the head and tail portions being specially modelled with clay and tow to the required proportions. The snake's skin which was now scraped again and mothproofed by a coating of arsenical soap on the flesh side was placed over the artificial body and stitched up along the entire length of the incision on the belly, the whole body being bent and moulded into the desired shape as the stitching proceeded. But all this is more easily said than done. The completed specimen was then mounted on a board and allowed to dry. When dry, all faded colours on the skin were replaced by oil paints and glass eyes were substituted in the place of the natural eyes. With the fine, original gloss of the skin restored by a final coat of paper varnish, the exhibit was ready to go into the show case, and it now adorns the reptilian gallery of the Museum where an entire mounted specimen of the Python was hitherto lacking.

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SOME JUNGLE PESTS AND REMEDIES

BY

LT. COL. E. G. PHYTHIAN ADAMS, O.B.E., F.Z.S.

When out shooting or even while wandering in the jungle one is liable to come across snakes, and it is well to know how to treat a bite, though that fortunately seldom occurs. The first things is to apply a tight ligature above the wound and slash the bite deeply. If the place cannot be sucked, rub in permanganate crystals which should always be carried for this purpose with a Lauder-Brunton snake lancet. This may reduce a lethal dose to a sub-lethal one, but of course an anti-venene injection is the only certain remedy. Unfortunately it is seldom available when required and time is literally of vital importance. It should, however, be remembered that comparatively few snakes in India are venomous, and that even in the case of the latter a lethal dose may not necessarily have been injected. Some of the poison may have got wiped off when penetrating clothing, or the snake

may have temporarily exhausted its supply. A few years ago one of my Kurrumba shikaris in the Wynaad was bitten on the bare foot by a Russell's Viper. He survived, but when I saw him three weeks later his leg was suppurating badly in several places. Daily application of Cibazol ointment soon effected a cure.

Leeches can be had in some jungles during the monsoon, and in Upper Burma I found them particularly troublesome, every twig seeming to harbour one or more waiting expectant. As a preventive it is a good plan to grease legs and feet with kerosene or with citronella compound ointment used by the XIV Army. This combined with boots with tongues sewn up to the top, and putties over slacks will generally prove effective. When a leech does get home no attempt should be made to pull it off. A touch with a lighted cigarette or a pinch of salt will make it release its hold. In places where they are really bad it pays to carry a small bag of salt attached to a stick. Even if you do not need it yourself your trackers will appreciate it. Leech bites are intensely irritable and the only cure I have found for them is *Milton* applied neat. The larger horse-leech is fortunately not common. I remember seeing one on the ear of an elephant which I had in camp with me near Bhamo. It was fully gorged and an immense size; at first I could not make out what it was. Another variety is the water leech which one sometimes picks up in a tank while duck shooting in shorts, but they generally fall off when one comes to land without doing much damage. What becomes of leeches in the dry season? I have often wondered. Do they die off and does a fresh crop appear next year? Or do they hibernate? And what do they generally feed on? Not one in a hundred can secure a meal of blood, and that very seldom.

Another pest of the jungle is the tick. Not the larger variety which is found on animals, but those of pin-point size which are scarcely visible till they have done their dirty work. Nasty little brutes they are, and when they are specially prevalent in long dry elephant grass in November one gets covered with them. It may be only a coincidence, but after being badly bitten I have more than once suffered from mild fever. The only thing

for their bites, as with leeches, is *Milton*. The same remedy is also effective for water-itch which one gets on one's knees if wearing shorts for duck shooting. It is very prevalent in certain tanks in Mysore but not in all. What causes it I have never been able to discover. It may be a water-flea, but I have noticed that it is most prevalent in the neighbourhood of bullrushes, and that tanks which are free from them are generally free also of this most irritating pest.

Eye-flies can be a nuisance when one is sitting up and has to remain motionless. A kakhi handkerchief worn over the head diagonally with ends over each ear, combined with glasses, will keep them off. If you get a woolly bear caterpillar on you it is almost certain to leave a lot of hairs which cause intense irritation. The best remedy is to rub in plain table salt. And if you should be unfortunate enough to get some white juice from the milkweed cactus into your eye, fresh milk of any kind will give you immediate relief. The juice of a raw onion is good for scorpion stings and wild garlic will drive off angry bees. If none is available the only thing to do is to lie flat and motionless on the ground when the bees will soon leave you. It is hopeless to try and throw them off by running, as I have found to my cost. The big rock bee is a dangerous customer and numerous stings may prove fatal to man or beast.

The idea that tiger fat is a sovereign specific for rheumatism is widely held throughout India, and from my personal experience I know that in some cases it has proved remarkably effective. So when you shoot a tiger, do not forget to collect every scrap of fat both from the skin and from inside the animal also. Keep an eye on it or it will disappear very quickly! Boil it down in a degchi with a little salt over a slow fire. Bottle and cork tightly and it will keep for years. Even if you do not want it yourself you will constantly have others asking for it. In this connection I may recall an amusing incident that occurred many years ago when I was living at Lovedale. A doctor who was running a private clinic for poor people in Ooty, hearing that I had tiger fat, asked for some to try on his dog which suffered

from rheumatism. I sent him a Marmite jar full which was handed over to his assistant in the Doctor's absence. When I enquired ten days later whether it had proved efficacious, the Doctor denied having received it. On investigation it was found that the assistant, not realising what the jar contained had fed it to a patient who had been ordered Marmite! And what is more, it had apparently done him good. Even though it failed to renew either his youth or his beauty like the fabled ambrosia of the gods, it certainly left him looking like a cat that has got at the cream jug. Evidently our knowledge of jungle remedies is far from complete!

BIRDS OF THE DUARS

By

C. M. Inglis, F.Z.S., C.M.B.O.U.

(*Continued from p. 169, Vol. XXV, No. 3*)

Family *Paridae*

7. The Nepal Grey Tit.

Parus major nipalensis Hodgson.

(Fauna Br. Ind. 2nd Ed., No. 51).

Description.—Length 5 inches. Sexes alike. Head, neck, breast and a broad band down the centre of the abdomen, black ; a patch on the sides of the head and a small one on the nape, white, upper plumage blush-grey with a white wing-bar; tail black, edged with ashy-grey on the four central feathers, outer ones mostly white ; sides of breast and abdomen, white, tinged with vinaceous.

Bill black ; iris brown ; legs plumbeous.

Distribution and habits.—This Tit appears to be commoner in the Eastern than in the Western Duars. It is a plains

Paradoxornis flavirostris flavirostris

Gould's Parrot-Bill

($\frac{1}{1}$ Nat. Size)

bird inhabiting open forest and coming into gardens. It is an active little bird, continually on the move, clambering about trees in search of insects, sometimes hanging head downwards and getting into all sorts of positions. It is often seen singly, or in pairs, and joins hunting parties of other small birds. It is arboreal in habits, but often descends to the ground. The food of this Tit consists of insects, especially caterpillars, also seeds and fruit. It has a pleasant note like *tsee-tsee-tsee* and a feeble flight.

It breeds in the Duars in March and April. O'Donel had a pair breeding outside his compound at Hasimara. The nest is a pad of hair, wool, moss, etc., placed in a hole in a tree or wall. It lays four to six eggs, pinkish-white in colour, spotted and speckled with reddish-brown and pale purple, often forming a zone at the thicker end. They measure about 0.71 by 0.54 inches.

8. The Green-backed Tit.

Parus monticolus monticolus Vigors.

(Fauna Br. Ind. 2nd Ed., No. 59).

Description.—Length 5 inches. Sexes alike. Head, breast and a broad band down the centre of the abdomen, black; a white patch on the sides of the head and another small one on the nape; back greenish-yellow; rump slaty; wings black, edged with blue and with two wing-bars; tail black, edged with blue and tipped with white, outermost feathers entirely white; sides of breast and abdomen, deep yellow.

Bill black; iris brown; legs plumbeous-slate.

Distribution and habits.—A common bird in the hills round Baksa Duar and extending, sparingly, into the plains. Stevens came across a small party at Bhutan Ghat, in the foot-hills, and I have obtained it at Hasimara and Hantapara. It has similar habits to the Grey Tit, and in the hills, comes freely into gardens; it is also found in the forest. It is seen singly or in parties. Stevens has seen many foraging on the ground. It has also a very pleasant note like *ti-ti-tee-ti* with the third syllable prolonged and has also others. According to Whistler this Tit is very fond of water and bathes very regularly.

It possibly breeds in the hills round about Sinchula, and April is likely to be the principal breeding month but it also breeds until June. The nest is shapeless and composed of moss, fur and feathers placed in a hole in a tree or well. The eggs number from 4 to 8 and are white, blotched, speckled and spotted with red or reddish-brown. They measure 0.72 by 0.52 inches.

9. The Indian Sultan Tit.

Melanochlora sultanea sultanea (Hodgson).

(Fauna Br. Ind. 2nd Ed., No. 87).

Description.—Length 8 inches. *Male* :—Top of the head including the long crest, brilliant yellow; lower plumage from below the breast bright yellow ; rest of the plumage deep black, glossed with steel-blue. *Female* :—Resembles the male but the yellow is paler and duller and the black is replaced by greenish-brown, suffused on the throat and breast with yellow.

Bill black ; iris brown ; legs dark slaty.

It is a moot point whether this Tit should be placed in the same Family as the other species or be separated from them.

Distribution and habits.—This beautiful bird is found in the forests of the hills and foothills and may be seen near forest paths either in dense or light deciduous forest or bamboo jungle and scrub. It goes about in parties, or pairs, and is very Tit-like in its actions, searching the trees for insects, fruit or seeds. It is slower in its movements than the smaller Tits but just as acrobatic, but unlike the other Tits its crest is only raised when excited.

Family *Paradoxornithidae*

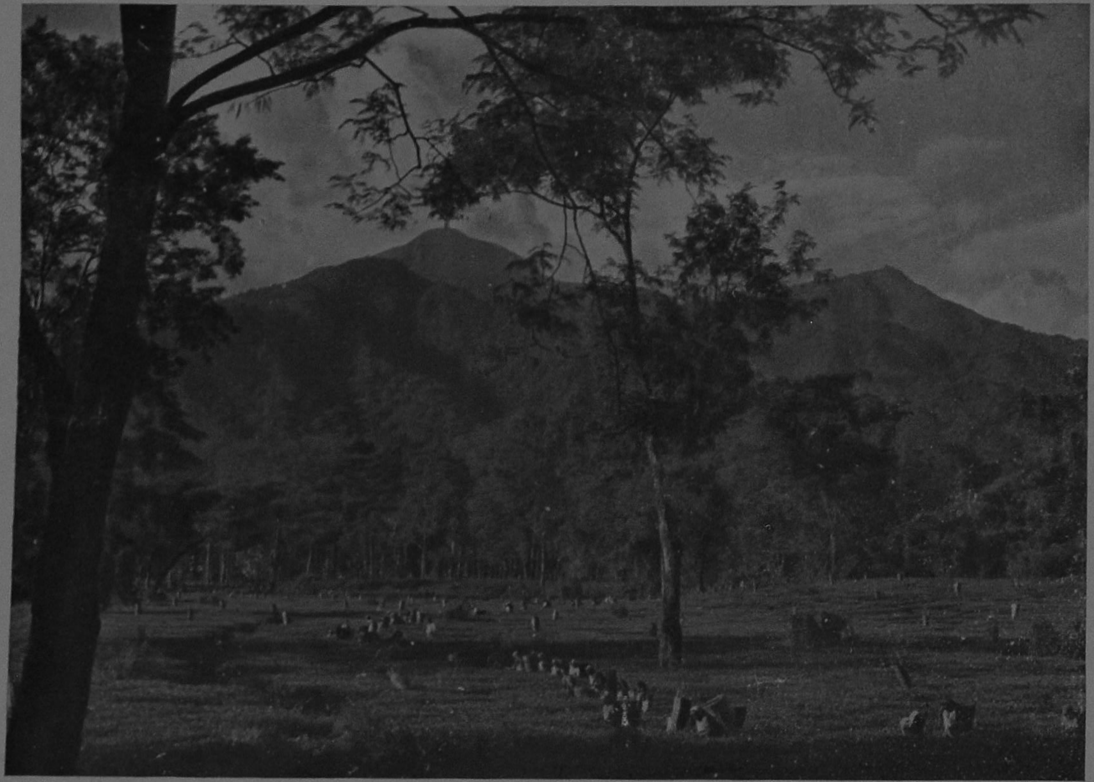
10. The Black-throated or Gould's Parrot-Bill.

Paradoxornis flavirostris flavirostris Gould.

(Fauna Br. Ind. 2nd Ed., No. 90).

Description.—Length 7½ inches. Sexes alike. Forehead nape and sides of neck rufous ; rest of upper plumage fulvous-brown ; wings and tail rufous ; a large patch of white on the

Sankos Ghat (From the Assam Bank). *Copyright—H. E. Tyndale.*



HATIPOTHA GARDEN. *Copyright—H. E. Tyndale,*

sides of the head, with dark bases showing, giving it a scaly appearance; chin white, barred with black; rest of lower plumage earthy or rufescent-fulvous.

Bill waxy or bright yellow; iris red-brown or red; legs plumbeous-grey.

The Parrot-Bills are often known as Crow-Tits and have curiously shaped bills, as can be seen in the coloured plate, and very soft, lax feathers.

Distribution and habits.—A rather rare bird in the Duars though, probably, commoner than it seems to be owing to its shy nature. I have obtained specimens near Hasimara, at Sarugaon, near the Hoolan in the Titi forest and a couple at Gorumara, all during the winter. It is a very shy and retiring bird keeping inside high ekra and reeds, near water and seldom showing itself. It goes about in parties and the only clue to their presence, in a bed of reeds, is the waving of the latter. They sometimes climb up to the top of these and take short flights. Stevens says it has a striking whistle like *phew-phew-phew-phuit,* commencing low and increasing in volume. It feeds on seeds, larvae, etc.

11. The Sikkim Red-headed Parrot-Bill.

Psittiparus ruficeps ruficeps (Blyth).

(Fauna Br. Ind. 2nd Ed., No. 104).

Description.—Length 7½ inches. Sexes alike. Whole head and nape, chestnut; upper plumage olive-brown; lower plumage white, tinged with buff.

Bill: upper mandible horny-brown, lower one fleshy-brown; iris deep red-brown; legs dark plumbeous-blue.

Distribution and habits.—I came across a small party of this bird, in some undergrowth, at Baksa Duar on the 3rd December, 1918, one of which was secured. It is partial to bamboos, reeds, scrub and small tree jungle and moves about in pairs, or small parties, often in the company of other small birds. Like the last species it conceals itself a lot and takes

short flights. Its flight is weak and fluttering like the other Parrot-Bills. In its search for food which is, principally, insectivorous it keeps up a chirrup.

12. The Sikkim Grey-headed Parrot-Bill.

Psittiparus gularis gularis (G. R. Gray).

(Fauna Br. Ind. 2nd Ed., No. 106).

Description.—Length 6 inches. Sexes alike. Head grey, darker on the crown and nape ; an eyebrow from the forehead to the nape ; the chin black ; lower plumage white.

Bill chrome-yellow to almost organe horny-yellow ; iris red-brown ; legs slaty-brown.

Distribution and habits.—O'Donel secured a specimen at Baksa Duar in December. I have not seen it in the Duars. It associates in small parties of abbut six or eight birds and keeps to bushes and low tree-jungle. They are great skulkers.

(To be continued).

NOTES ON RECENT ADDITIONS TO THE COLLECTIONS AND NEW EXHIBITS PREPARED IN THE NATURAL HISTORY MUSEUM, DARJEELING, SINCE MARCH 1ST., 1952.

1. Beetles of the Darjeeling area.—About hundred specimens of large-sized beetles, collected locally, were procured for the Museum through Mr. J. A. Hulbert, Curator of the Lloyd Botanic Garden, Darjeeling. The specimens comprise mostly Scarabs, Staghorn and Longicorn beetles. Among the species represented are :—*Euchirus macleayi* Ho., *Xylotrupes gideon* Linn., *Eupatorus hardwickei* Ho., *Batocera adelpha* Thoms., *Meges marmoratus* Westwood, *Lucanus lunifer* Ho., *Lucanus mearesi* Ho., *Cyrtotrachelus longipes* Fabr., and *Catoxantha bicolor* Fabr. It is hoped that it would be possible to prepare a

detailed report on this collection for publication before long. Selected specimens of these have been suitably mounted and exhibited in a separate insect case.

2. **The Goshawk.**—A female specimen of the Goshawk, [*Astur gentilis gentilis* (Linn)] shot with a squirrel in its claws at Rungli-Rungliot, Darjeeling, was presented by Mr. W. H. Matthews of Teesta-Valley T. E. The specimen has been preserved as a study skin in the reserve collection.

3. **The Long-Legged Buzzard.**—A skin of the Long-legged Buzzard, *Buteo rufinus rufinus,* shot at Glenburn (3000 feet elevation) was presented by Mr. D. C. Purves of the Lingia T. E., Marrybong, Darjeeling. The skin was preserved and stored as a study skin in the reserve collection.

4. **The Rufous-Bellied Hawk Eagle.**—A male specimen of the Rufous-Bellied Hawk Eagle (*Lophotriorchis kieneri* de Sparre), shot at Glenburn (3000 feet elevation) was presented by Mr. D. C. Purves of the Lingia T. E., Marrybong, Darjeeling. The specimen was mounted and exhibited in the Museum along with the other birds of prey.

5. **Egg of the Banded Crake.**—An unblown egg of the Banded Crake (*Rallina superciliaris superciliaris* Eyton), was presented by Mr. W. H. Matthews of the Teesta-Valley T. E. The egg was subsequently blown, preserved and exhibited among the collection of birds' eggs. At first the identity of the bird which had laid the egg was uncertain, but later the donor confirmed its identity by actually observing the mother. It may be of interest to quote here Mr. Matthews' observations on the egg and the nest. He says, "the nest is a shallow cup about 9 inches across, made of sticks and a few dead leaves in the middle of a tea bush, 18 inches from the ground. There were seven eggs of which I took one, in case the nest was destroyed. The bird has now been sitting for a week, but it is impossible to get a glimpse of her. I put her off the nest this morning but only got a glimpse of something darting about under the adjoining bushes like a rat. The nest is more a platform than a cup;" and in a

subsequent note, he says, "I have identified the owner of the unknown nest from which I sent you one egg. It is *Rallina superciliaris superciliaris*, the Banded Crake. I saw the bird on the nest this afternoon from a distance of about 12 inches. There are only five eggs left in the nest and they must be about to hatch, as the bird started to sit on June 6th. The sitting bird was rufous, tinged with olive on the head and back, and the flanks are conspicuously barred with black and white. When she left the nest she demonstrated at me by making an extraordinary noise like the hiss of a snake, only deep and more guttural. This was repeated about six times while the bird was making away from the nest in the undergrowth. The nest is a shallow cup in the middle of a tea bush on the side of a small grassy hollow with a small stream running down the middle. The nest is about 20 inches above the ground. I hope to catch one of the young ones in a few days time."

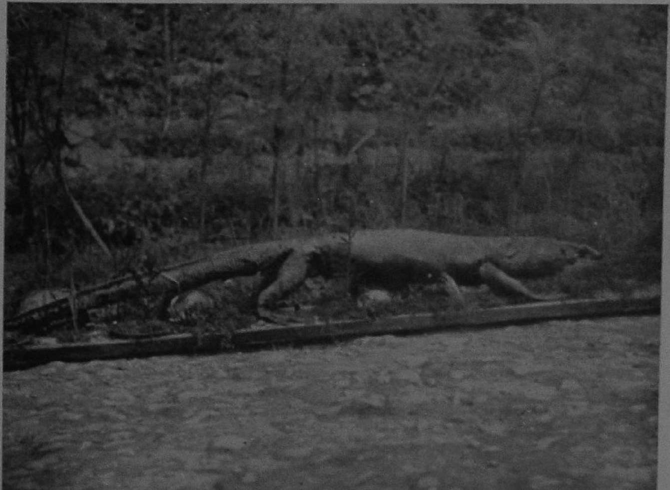
6. The Large Indian Civet.—A young female specimen of the Large Indian Civet (*Viverra zibetha* Linn.), procured locally, was skinned, mounted and exhibited along with the other mammal exhibits. The colour of the skin is dark grey ornamented with black bands running down the sides. The tail is encircled by widely spaced white rings. As the original specimen of this species in the Museum is an adult, this young specimen is a welcome addition to the exhibited series of mammals.

7. The Himalayan Yellow-Throated Marten.—The skin of an abnormal specimen of the Himalayan Yellow-Throated Marten (*Charronia flavigula* Boddaert) from the Takdah Range Forests, Darjeeling District, was presented by the Divisional Forest Officer, Darjeeling. The animal was found to move in company with a normal specimen in the Takdah Range Forests.

Description.—The colour of the animal was golden yellow on the upper back side and whitish underneath the chest and lower portion of the animal. The tail was blackish brown and the mouth white. Size of the skin :—Length : 3 feet 5 inches; width at the shoulder : 5 inches; width at the chest : 6 inches. The skin has been preserved as a study specimen in the reserve collection.

NEW EXHIBITS AT THE
NATURAL HISTORY MUSEUM,
DARJEELING.

Young of the Large Indian Civet
(*Viverra zibetha*)



Common Indian Monitor
(*Varanus monitor*)

In addition to the specimens enumerated above, which have been newly acquired, the following exhibits were prepared from skins in the reserve collection, as they were not represented among the exhibited series.

8. **The Himalayan Crestless Porcupine.**—A specimen of the Himalayan Crestless Porcupine (*Hystrix hodgsoni* Gray) was mounted and exhibited with artificially modelled accessories and a suitable painted background in the Mammal show case. This species is found in the Central and Eastern Himalayas, Assam and Lower Bengal at elevations up to about 5,000 feet. In this porcupine the crest is either very small or altogether absent.

9. **The Common Indian Monitor** : A fair-sized specimen of the Common Indian Monitor, (*Varanus monitor* Linn.), was mounted and exhibited with artificially modelled rockwork, preserved vegetation, etc., against a painted background.

10. **The Northern Besra Sparrow-Hawk.**—A female specimen of the Northern Besra Sparrow-Hawk (*Accipiter virgatus affinis* Hodgson) shot at Glenburn, (3000 feet elevation) was presented by Mr. D. C. Purves of the Lingia T.E., Marrybong, Darjeeling. The specimen was skinned and mounted for exhibition.

11. **Skin and head of the Hog Deer, and horns of the Spotted Deer.**—The skin and head of a fine specimen of the Hog Deer (*Hyelaphus porcinus* Zimm), with the horns intact, shot in Chilapota Range, Jalpaiguri District, was presented by Sri A. Dutt-Mazumdar, I.A.S., Deputy Commissioner, Darjeeling. The horns were of an exceptionally large size and measured 20 inches in length. Another skull and horns of the Hog Deer and the horns of the Spotted Deer were also presented to the Museum by the Deputy Commissioner, Darjeeling. These specimens have been suitably mounted and exhibited in the Museum.

We wish to take this opportunity to express our sincere thanks to the donors of the various specimens enumerated above, and we do hope that other members will help us likewise with specimens of interest for our Museum.

Editor

LIST OF NEW MEMBERS ENROLLED IN 1952.

1. E D. Averi Esq., Capitol Cinema, Darjeeling.
2. Mrs. C. W. Emmett, Lingia T.E., Darjeeling.
3. Col. L. Hannagan, Margarets Hope T.E., P.O. Tung.
4. Prof. J. B. S. Haldane, F.R.S., Royal Society, London.
5. Mrs. Jamal Ara, P.O. Hinoo, Ranchi, Bihar.
6. D. I. Macdonald Esq., Himalayan Hotel, Kalimpong.
7. Sri Paras Mani Pradhan, Editor, "Bharathi", Darjeeling.
8. D. S. Peters Esq., Rydak T.E., Raidak P.O., E. Duars.
9. Dr. D. P. Raichoudhury, Dy. Director of Industries (Sericulture) West Bengal, Berhampore.
10. Sri S. K Roy Choudhury, Director, Bien Artium Natural Science Ltd., Calcutta.
11. A. P. Spurling Esq., Raimatang T.E., Kalchini P.O.
12. E. Sampson-Way Esq., Tista-Valley T E., Darjeeling.
13. Dr. J. C. Saha, Professor of Biology, Government College, Darjeeling.
14. Dr. A. M. Heron, Coonoor, Nilgiris, S. India.
15. Sri H B. Majumder, Principal, Basic Training College, Banipur, P.O. Baigachi, 24-Parganas.
16. Sri V. S Rao, I F.S., Divisional Forest Officer, Buxa Division, P.O. Rajabhatkhawa.
17. Rev. H. C. Duncan, Mission House, Darjeeling.
18. Turnball School, Darjeeling.
19. Sri K N Chaudhury, I.F S., Divisional Forest Officer, Kurseong.
20. Sri M. V Rajendran, St. Xavier's College, Palayamcottah.
21. India Office Library, King Charles Street, London, U.K.
22. Chief Conservator of Forests, Assam, Shillong, Assam.
23. Sri Lakshman Rai, Rimbick Forest Office, Lodomahat P.O

LETTERS TO THE EDITOR

GAME PROSPECTS IN BIHAR

Sir,

I read Mr. Augier's article in Vol. XXV, No. 3, (April, 1952) issue of the Journal about Game Prospects in Bihar with great interest, and must say that he has summed up the situation admirably. I have only one more point to add—he says that "In this State poachers are rampant," and goes on to express the opinion that a Mussolini is necessary to save game in India. I may be permitted to differ. It has been my regrettable experience that the Forest department themselves do not show the keenness and enthusiasm about the preservation of game that one expects from them. Deterioration of morale has progressed to such an extent that shooting is now considered a safe source of illegal gratification. If only they could take the interest expected and apply the law as it stands rigourously, great improvements are bound to occur.

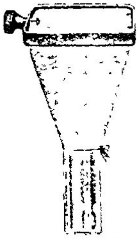
To quote isolated incidents, I have known of a Bison being shot at night and then being skinned under the personal supervision of the Divisional Forest Officer, as was boastingly described to me by the Shikari himself! Also there are a certain class of rich persons who regularly desecrate Sanctuaries at the cost of a heavy bribe to the Forest Officer and his subordinates. They invariably shoot at night and clear out of the Forests by dawn. Incidents like this could be quoted *ad nausem*.

Lastly, how far the Forest Service has forgotten its traditions is illustrated by the fact that two gazetted officers wounded a tiger and *did not* follow it up. When this incident got known to certain other forest officers who still hold the traditions of the service dear, they literally hung their heads in shame. They said that for a forest officer to do such a thing was impossible to imagine even.

I need hardly add that I do not criticise out of spite. I feel sorry at the deterioration of a Service that for tradition ranks higher than any in the country.

P O Hinoo, Ranchi,
6th October, 1952.

Yours faithfully,
(Sd.) Jamal Ara.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